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New Double Stars. By the Rev. T. E. Espin, M.A.

No.	B.D.	R.A. 1900.		Decl.		P.	D.	Mags.		Nights.	Date.
	°	h	m	°	′	°	″				1907.
443	+48,5	0	0·8	+49	10	32·9	4·27	8·7	9·9	2	·740
444	+44,126		31·4	44	57	192·5	2·93	9·1	9·6	3	·968
445	+44,130		32·6	44	54	349·7	3·32	9·0	11·0	3	·968
446	+49,182		40·2	49	18	256·1	10·12	8·4	9·0	2	·867
447	+49,186		41·1	49	43	277·9	5·60	8·5	11·7	2	·836
448	...		59·1	50	2	81·3	2·50	9·5	9·7	2	·774
449	+49,352	1	13·8	49	58	212·8	11·20	8·5	9·1	3	·876
450	+47,414		21·7	47	37	147·4	9·52	8·0	13·5	2	·759 AB
						268·9	20·10	C =	13·0	2	·759 AC
451	+49,386		21·8	49	57	65·1	1·97	9·1	9·2	3	·886
452	+49,420		31·7	50	8	176·2	2·62	9·4	11·3	2	·881
453	+44,387		48·9	44	50	259·0	4·45	8·5	11·2	2	·994
454	+49,514		53·2	50	7	132·2	8·65	8·5	10·0	3	·786
455	+49,637	2	14·0	49	41	135·6	4·54	9·2	13·0	2	·850
456	+49,665		21·0	50	2	269·8	3·28	9·1	11·4	3	·821
457	+49,671		22·2	49	14	6·7	6·80	7·7	11·5	2	·759
458	+48,701		28·1	48	58	316·8	5·30	9·1	9·9	3	·886 AB
						243·9	24·58	C =	13·5	3	·886 AC
459	+48,708		29·9	48	56	142·7	3·35	8·9	10·2	4	·888
460	+48,711		30·9	48	13	316·8	2·68	9·1	9·3	3	·894 AB
						336·8	18·85	C =	13·5	1	·909 AC
461	+48,756		40·2	48	40	342·7	8·22	8·5	9·6	3	·900
462	...	3	7·9	49	23	172·9	2·55	9·7	10·4	2	·896
463	+49,891		9·5	49	21	257·3	4·95	9·3	11·7	2	·896
464	+47,806		14·2	47	21	65·8	7·15	9·1	9·2	2	·817
465	+49,1015		38·6	50	7	251·1	7·37	8·7	9·2	2	·896
466	+49,1092		56·7	49	32	57·1	3·95	8·5	11·0	2	·896 AB
						123·4	14·22	C =	12·0	2	·896 AC
467	...	5	2·4	47	25	98·2	1·52	11·0	11·3	2	·940
468	+30,3021	17	30·3	30	3	11·5	2·28	9·2	10·0	4	·613
469	+28,2829		42·8	28	1	140·9	4·41	10·0	13·0	3	·650 BC
						267·5	48·12	A =	8·5	2	·658 AB
470	+27,2943		59·3	27	51	206·5	7·17	8·6	9·8	3	·658
471	+27,2948	18	0·7	27	6	271·4	18·23	7·0	14·0	3	·676 AB
						44·1	30·35	C =	10·0	2	·671 AC
472	+27,2980		9·9	27	57	8·5	3·08	9·1	9·6	2	·655
473	+42,3026		10·0	42	49	158·0	9·63	8·5	10·0	3	·703 BC
						100·3	30·78	A =	8·5	3	·703 AB

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	°	h	m	°	′	°	″				1907.
474	+42,3054	18	16·8	+42	55	34·5	3·68	9·2	12·3	3	·725
475	+27,3032		24·0	27	2	222·9	9·72	8·8	9·8	2	·671
476	+27,3041		26·7	28	0	347·6	2·52	9·5	10·1	3	·666
477	+26,3298		30·9	26	56	233·1	7·76	8·9	11·5	3	·677
478	+42,3144		40·5	42	30	182·3	8·22	8·7	9·2	2	·699
479	+27,3208		57·9	27	9	139·3	8·05	8·6	9·8	2	·603
480	+27,3218		58·9	27	33	304·2	2·45	9·1	10·1	2	·637
481	+27,3261	19	6·2	27	41	136·0	4·32	9·0	12·7	3	·650
482	+25,3756		9·7	25	36	167·4	4·27	8·9	11·2	2	·609
483	+25,3803		17·5	25	23	358·2	12·62	7·2	12·0	4	·634
484	+28,3322		20·8	28	44	332·6	7·30	8·5	14·0	3	·692 AB
						335·6	22·60	C =	9·0	3	·692 AC
485	+27,3419		27·5	27	55	342·4	2·37	9·2	10·5	2	·655
486	+25,3870		28·6	25	13	287·9	8·35	9·0	14·0	3	·656 BC
						18·2	45·24	A =	8·8	2	·633 AB
487	+27,3431		29·8	27	10	336·4	3·87	9·1	11·5	2	·708
488	+27,3434		29·9	27	16	50·5	2·12	9·1	9·2	2	·708
489	+27,3438		31·4	27	41	243·2	15·40	8·2	10·8	3	·714 AB
						205·5	20·32	C =	11·2	3	·714 AC
490	+43,3305		33·4	43	14	166·8	3·50	9·0	10·2	2	·740 BC
						229·7	16·38	a =	12·0	3	·758 Aa
						223·8	61·70	A =	8·9	2	·740 AB
491	+47,2874		33·5	47	54	57·7	9·67	9·1	9·6	2	·720 AB
						251·0	18·20	C =	14·0	1	·725 AC
492	+25,3902		34·2	25	28	158·1	5·42	9·2	9·3	2	·632
493	+43,3311		34·5	43	14	316·0	4·20	9·3	9·5	3	·758
494	+27,3549		49·6	27	49	190·1	3·65	8·9	10·2	2	·725 AB
						309·0	16·35	C =	12·0	1	·739 AC
495	+28,3553		54·3	28	43	310·5	4·11	11·0	11·8	3	·657 BC
						245·5	39·87	A =	8·0	2	·688 AB
496	+28,3594		58·5	28	42	279·2	2·22	8·9	10·0	2	·688
497	+29,3886	20	1·1	30	4	200·3	5·28	9·1	10·8	3	·658
498	+29,3889		1·7	30	6	241·3	9·38	8·3	11·2	3	·658
499	+45,3080		7·8	45	18	339·8	14·35	8·0	12·0	3	·784 AB
						77·3	26·20	C =	13·0	1	·756 AC
500	+49,3218		8·8	49	25	351·6	6·45	8·8	9·2	3	·891
501	+45,3093		9·0	45	17	125·3	1·32	9·1	10·2	2	·715
502	+48,3059		10·9	48	53	223·2	11·25	7·7	10·0	4	·897
503	...		16·5	47	48	353·1	4·57	9·2	9·5	3	·734
504	+28,3760		24·1	28	40	87·2	6·02	9·2	10·2	2	·783

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No.	B.D.	R.A. 1900.	Decl.	P.	D.	Mags.		Nights.	Date.
	°	h m	° ′	°	″				1907.
505	...	20 26·5	+30 9	13·0	1·92	9·8	10·0	2	·783
506	+28,3779	27·1	28 35	303·1	6·57	8·7	11·2	2	·654
507	+28,3790	28·9	28 31	295·5	7·30	8·5	11·0	2	·603 AB
				340·2	32·73	C =	8·6	2	·603 AC
				224·3	36·52	D =	9·1	2	·603 AD
508	+28,3847	36·9	29 4	230·1	2·25	8·6	10·0	2	·783 AB
				221·9	18·07	C =	10·0	2	·783 AC
509	+48,3187	37·5	48 39	283·6	7·22	8·8	12·0	3	·723
510	+27,3871	43·9	27 31	235·1	6·11	10·5	10·7	3	·704 BC
				343·3	43·45	A =	8·0	3	·704 AB
511	+26,4026	50·9	26 42	51·5	7·42	9·0	9·7	2	·640
512	+46,3201	21 5·5	46 52	18·3	13·27	7·0	12·3	3	·710
513	+45,3474	12·3	45 59	52·2	7·05	9·0	13·5	2	·847
514	+46,3246	12·3	46 54	195·9	3·85	8·9	9·3	3	·695
515	+25,4504	14·0	25 49	302·5	3·50	9·2	12·7	2	·721
	+48,3376	21·4	48 53	161·5	19·16	6·5	12·0	3	·709
516	...	26·7	46 51	140·5	3·31	9·4	11·0	3	·844
517	+28,4122	28·4	29 4	239·4	2·05	9·2	9·9	4	·781
518	+45,3589	30·6	46 3	11·9	4·55	9·2	12·3	3	·666
519	+47,3476	30·6	47 42	304·3	7·62	9·5	9·7	2	·801
520	+27,4125	34·6	27 59	38·3	7·19	9·4	9·9	4	·714
521	+28,4171	39·9	28 19	269·7	14·25	7·6	14·0	2	·628
522	+44,3972	48·7	44 46	174·7	4·35	9·0	11·0	2	·888
523	+26,4294	49·1	26 33	94·9	6·19	9·1	9·2	3	·764
524	+48,3536	49·6	48 52	5·5	5·87	11·5	13·3	3	·776 BC
				188·7	20·37	A =	9·0	2	·711 AB
525	+48,3544	50·9	48 48	149·1	3·82	8·6	10·5	2	·711
526	+25,4650	52·0	25 44	108·4	7·34	8·4	12·5	3	·771
527	+27,4230	56·8	27 21	207·4	3·05	9·7	9·9	2	·674
528	+46,3546	58·6	46 44	74·5	2·47	9·1	11·7	2	·720
529	+46,3555	59·4	46 17	71·6	5·75	8·5	11·0	2	·705
530	+47,3677	59·5	48 11	190·9	8·17	8·0	9·5	2	·703
531	+47,3680	22 0·2	48 10	225·1	2·55	9·2	11·5	3	·706
532	+46,3580	2·4	46 47	245·6	9·82	9·0	9·1	2	·720
533	+45,3848	10·8	45 23	321·5	4·25	9·0	12·0	2	·730
	+48,3665	13·5	48 39	292·4	21·22	7·0	12·0	2	·755
534	+48,3673	14·4	49 10	104·5	6·02	9·0	9·3	2	·789 BC
				248·7	9·37	a =	12·0	2	·789 Aa
				68·0	48·97	A =	8·5	2	·789 AB
535	+25,4724	20·0	25 39	301·9	8·33	9·3	10·8	3	·828

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		h	m	°	′	°	″				1907.
536	...	22	20·4	+26	54	270·1	2·97	10·2	10·2	2	·673
537	+49,3855		23·2	50	9	19·7	2·27	9·2	9·4	2	·806
538	+46,3716		24·7	46	24	66·8	3·40	9·1	10·5	2	·889
539	+42,4437		28·3	42	36	287·7	6·10	9·1	11·0	3	·836
540	+48,3762		28·7	48	26	281·5	1·30	9·1	9·9	3	·709
541	+25,4787		35·9	26	13	220·3	6·61	8·0	12·4	4	·751
542	+49,3968		48·9	49	29	282·6	5·05	8·7	10·5	3	·710 AB
						83·9	57·88	C =	8·8	2	·708 AC
543	+46,3945	23	3·8	46	58	22·0	3·87	9·2	10·5	2	·783
544	+49,4054		4·2	49	22	245·6	2·30	9·5	9·7	2	·951
	+25,4927		17·5	25	22	264·4	19·95	6·7	13·0	2	·713
545	+48,4024		18·9	48	44	319·7	9·70	8·1	12·0	3	·755
546	+26,4623		20·1	26	24	162·2	2·37	9·1	10·8	3	·683
547	+46,4096		31·9	46	46	237·1	6·95	8·5	12·0	2	·795
548	+46,4139		39·8	46	54	315·9	14·37	8·5	8·8	2	·835
549	+47,4264		40·0	47	57	51·7	8·10	8·5	13·7	2	·704 AB
						238·7	16·07	C =	9·0	2	·704 AC
550	+45,4323		41·8	46	7	167·2	17·35	8·6	8·9	2	·814
551	+47,4313	23	49·5	47	41	311·6	4·72	11·7	12·7	2	·834 BC
						11·4	24·60	a =	10·5	1	·865 Aa
						88·1	30·90	A =	8·6	2	·834 AB

Appearance of Ring-extension during the disappearance of Saturn's Ring, Oct.–Nov. 1907. By R. T. A. Innes.

As Professor Campbell's observation of the appearance of Saturn's ring will give rise to some discussion, I do not delay sending the notes I have made so far. The telescope used is the 9-inch Grubb refractor mentioned in an earlier note. Sir Howard Grubb has supplied it with a double concave eyepiece of high magnifying power, which transmits at least twice as much light as an ordinary eyepiece. This negative eyepiece gives an erect image; its only drawback is an excessively small field.

On several occasions Mr. R. N. Kotze, my son and myself noticed the beaded appearances referred to by Professor Campbell, but we assumed that they were caused by either Mimas or Enceladus, and our curiosity did not lead us further.

I now give, without further comment, the exact notes made by myself at the telescope:—

1907 Oct. 16. Ring seen at moments.
17. Ring all but held steadily. It is very faint and not full length.